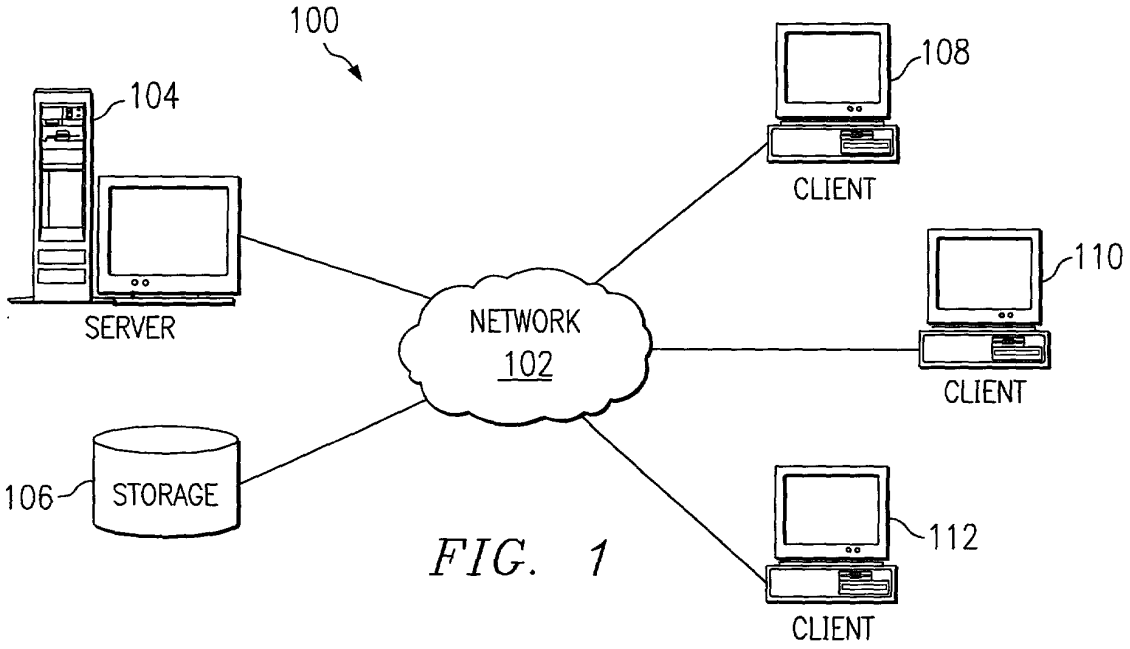

100
104
SERVER
108
CLIENT
110
CLIENT
NETWORK
102
106
STORAGE
112
CLIENT

FIG. 1

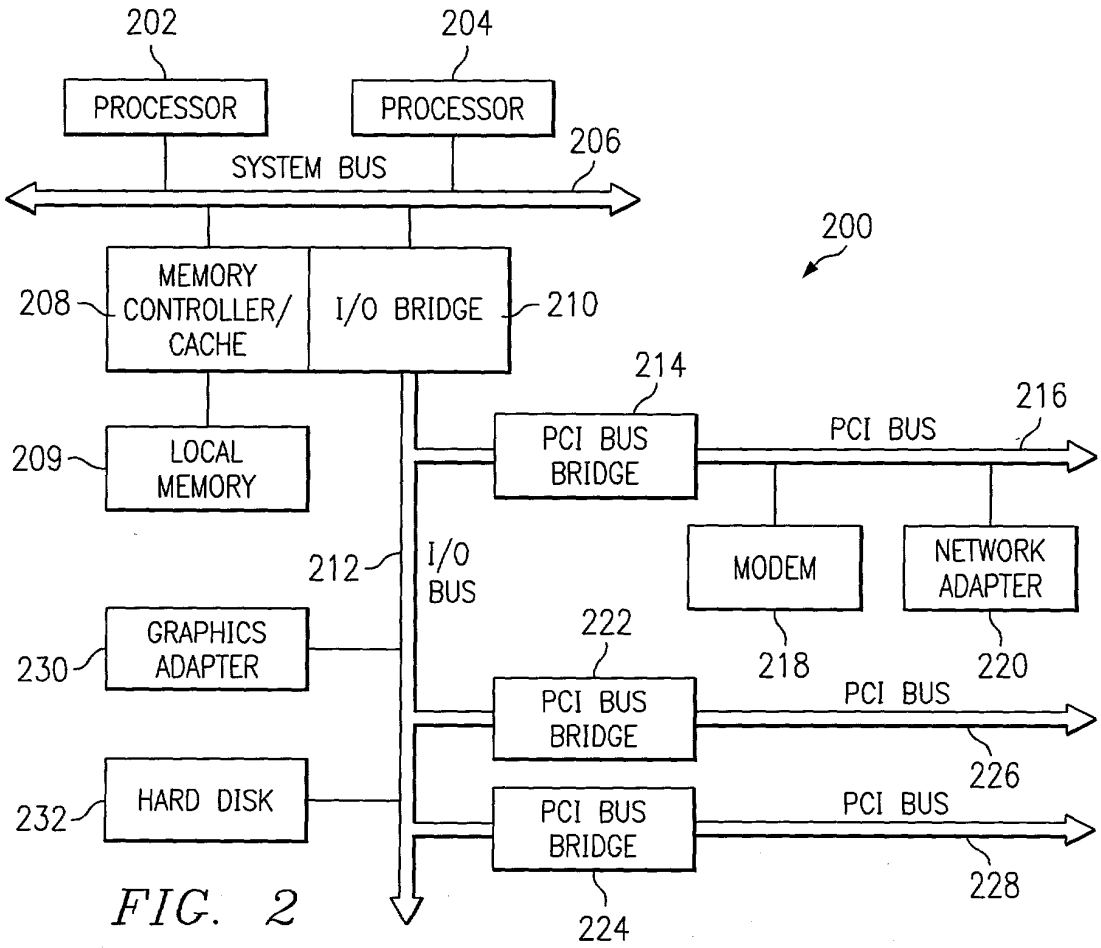

202
204
PROCESSOR
PROCESSOR
206
SYSTEM BUS
200
208
MEMORY CONTROLLER/ CACHE
I/O BRIDGE
210
214
216
209
LOCAL MEMORY
PCI BUS BRIDGE
PCI BUS
212
I/O BUS
MODEM
NETWORK ADAPTER
222
230
GRAPHICS ADAPTER
218
220
PCI BUS BRIDGE
PCI BUS
226
232
HARD DISK
PCI BUS BRIDGE
PCI BUS
228
224

FIG. 2

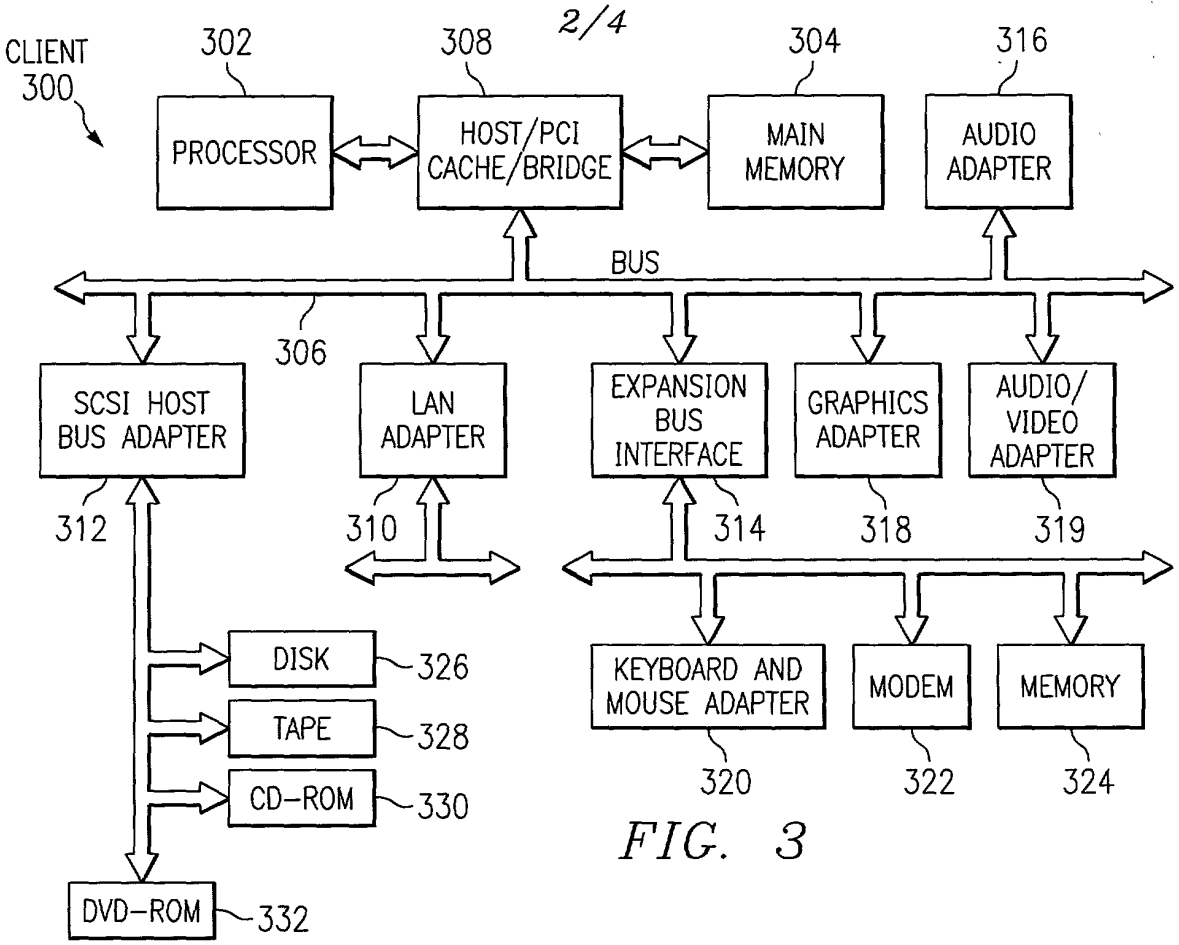


FIG. 3

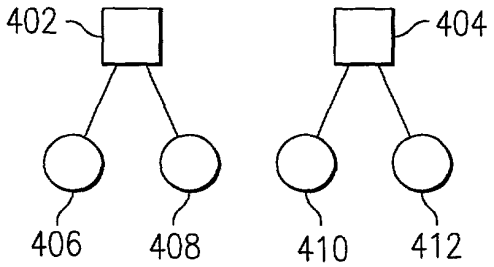


FIG. 4A

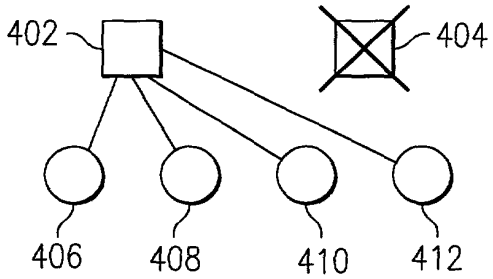


FIG. 4B

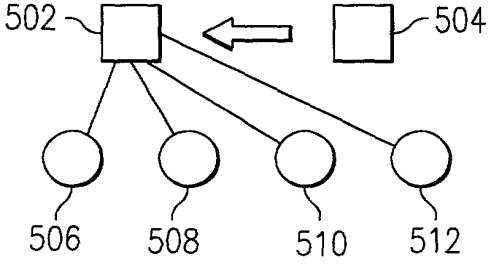


FIG. 5A

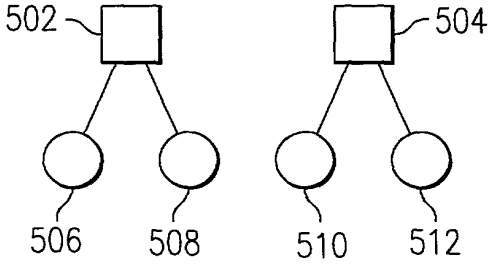


FIG. 5B

FIG. 6

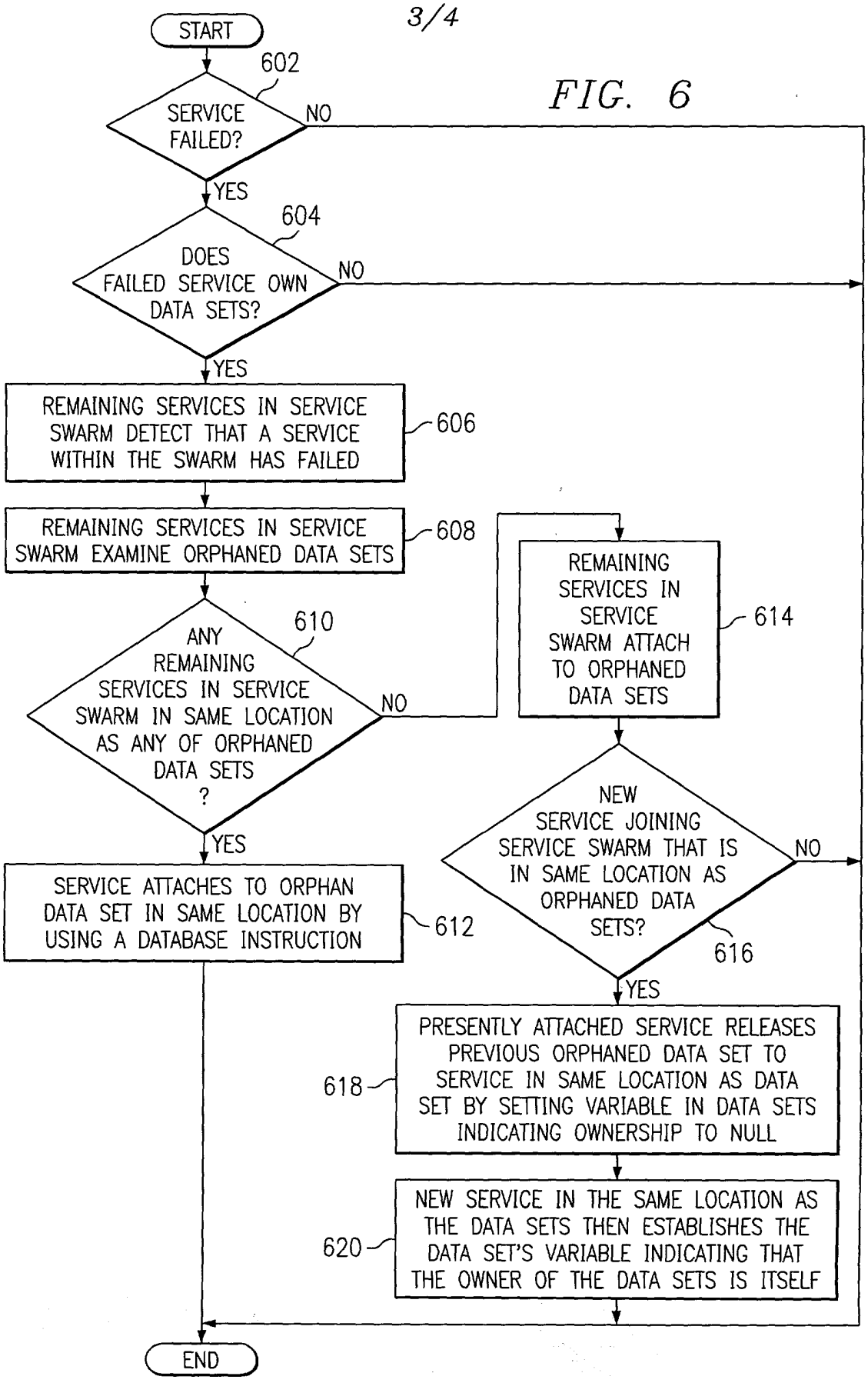
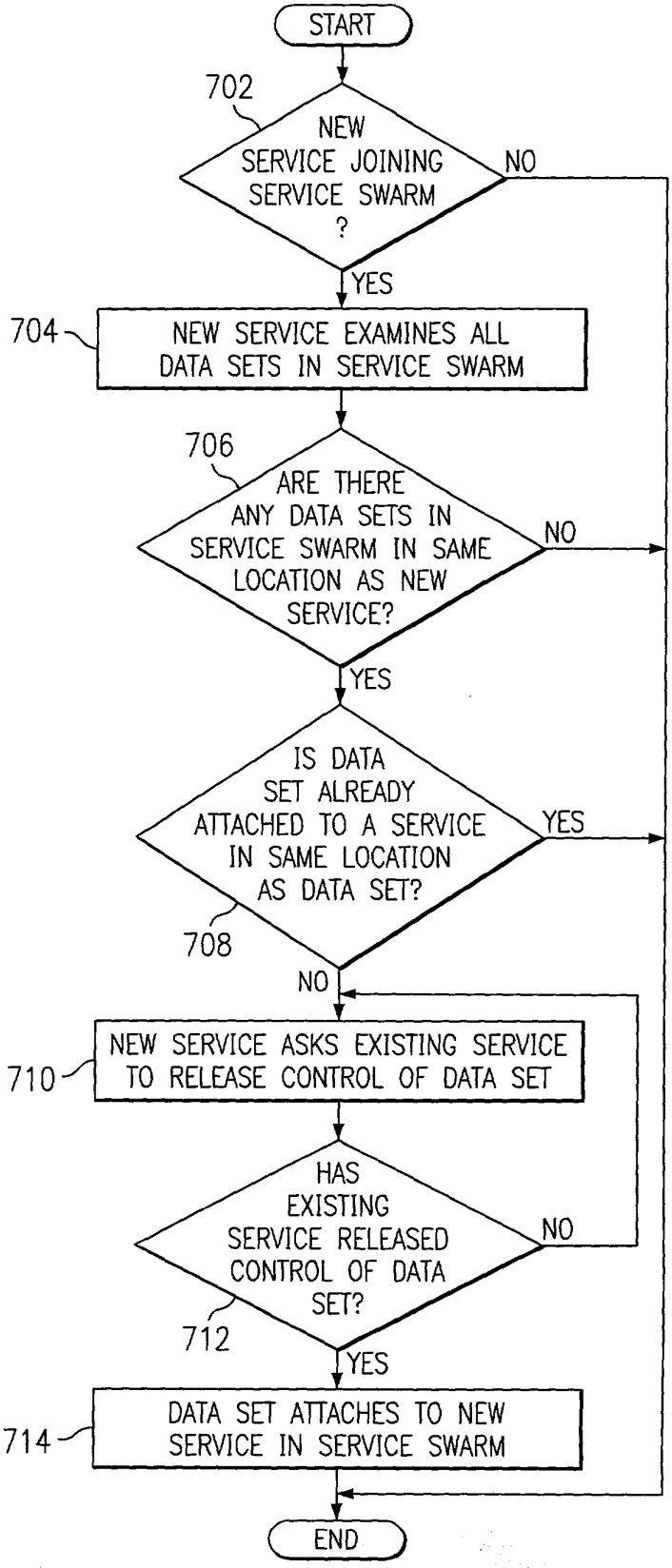

START
602
SERVICE FAILED?
NO
YES
604
DOES FAILED SERVICE OWN DATA SETS?
NO
YES
REMAINING SERVICES IN SERVICE SWARM DETECT THAT A SERVICE WITHIN THE SWARM HAS FAILED
606
REMAINING SERVICES IN SERVICE SWARM EXAMINE ORPHANED DATA SETS
608
610
ANY REMAINING SERVICES IN SERVICE SWARM IN SAME LOCATION AS ANY OF ORPHANED DATA SETS ?
NO
YES
REMAINING SERVICES IN SERVICE SWARM ATTACH TO ORPHANED DATA SETS
614
NEW SERVICE JOINING SERVICE SWARM THAT IS IN SAME LOCATION AS ORPHANED DATA SETS?
NO
616
YES
SERVICE ATTACHES TO ORPHAN DATA SET IN SAME LOCATION BY USING A DATABASE INSTRUCTION
612
618
PRESENTLY ATTACHED SERVICE RELEASES PREVIOUS ORPHANED DATA SET TO SERVICE IN SAME LOCATION AS DATA SET BY SETTING VARIABLE IN DATA SETS INDICATING OWNERSHIP TO NULL
620
NEW SERVICE IN THE SAME LOCATION AS THE DATA SETS THEN ESTABLISHES THE DATA SET'S VARIABLE INDICATING THAT THE OWNER OF THE DATA SETS IS ITSELF
END

FIG. 7


START
702
NEW SERVICE JOINING SERVICE SWARM ?
NO
YES
704
NEW SERVICE EXAMINES ALL DATA SETS IN SERVICE SWARM
706
ARE THERE ANY DATA SETS IN SERVICE SWARM IN SAME LOCATION AS NEW SERVICE?
NO
YES
IS DATA SET ALREADY ATTACHED TO A SERVICE IN SAME LOCATION AS DATA SET?
YES
708
NO
710
NEW SERVICE ASKS EXISTING SERVICE TO RELEASE CONTROL OF DATA SET
HAS EXISTING SERVICE RELEASED CONTROL OF DATA SET?
NO
712
YES
714
DATA SET ATTACHES TO NEW SERVICE IN SERVICE SWARM
END